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**United States
Department of
Agriculture**

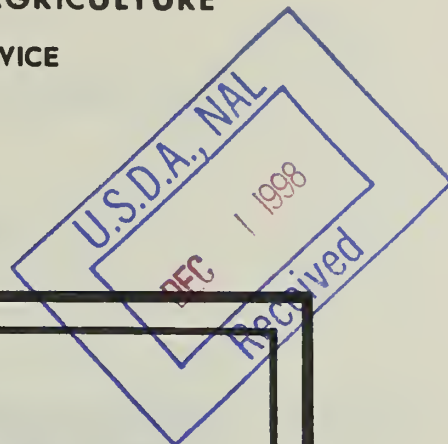


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**UNITED STATES
STANDARDS**
for grades of
CANNED APPLES



EFFECTIVE OCTOBER 17, 1953

Fourth Issue

These standards supersede the standards
which have been in effect since
November 1, 1943



This is the fourth issue of the United States Standards for Grades of Canned Apples. These standards are issued by the Department after careful consideration of all data and views submitted.

These standards were recodified in the Federal Register of December 9, 1953 (18 F. R. 8073) and no change was made except in the format. Section 52.2172 was amended (22 F.R. 3535) to become effective July 1, 1957.

As in the case of other standards for processed fruits and vegetables, these standards are designed to serve as a convenient basis for sales, for establishing quality control programs, and for determining loan values. They will also serve as a basis for the inspection of this commodity by Federal inspection service, which is available for the inspection of other processed products as well.

The Department welcomes suggestions which might aid in improving these standards in future revisions. Comments may be submitted to, and copies of these standards obtained from:

Chief, Processed Products Standardization
and Inspection Branch
Fruit and Vegetable Division
Agricultural Marketing Service
United States Department of Agriculture
Washington 25, D. C.

UNITED STATES STANDARDS FOR GRADES OF CANNED APPLES ¹

Effective October 17, 1953

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PRODUCT DESCRIPTION, STYLES, AND GRADES

§ 52.2161 *Product description.* Canned apples is the product prepared from sound, fresh apples of proper maturity and proper ripeness, which fruit is packed with or without any of the following ingredients: Water, salt, spices, nutritive sweetening ingredients, and any other ingredients permissible under the provision of the Federal Food, Drug and Cosmetic Act, and is suffi-

ciently processed by heat to assure preservation of the product in hermetically sealed containers.

§ 52.2162 *Styles of canned apples.* "Sliced" means canned apples consisting of segments of apples cut longitudinally and radially from the core axis.

§ 52.2163 *Grades of canned apples.* (a) "U. S. Grade A" or "U. S. Fancy" is the quality of canned apples that possess similar varietal characteristics; that possess a normal flavor and odor; that possess a good color; that are practically uniform in size; that are practically free from defects; that possess a good character; and that score not less than 85 points when scored in accordance with the scoring system outlined in this subpart: *Provided*, That the canned apples may be fairly uniform in size, if the total score is not less than 85 points.

(b) "U. S. Grade C" or "U. S. Standard" is the quality of canned apples that possess similar varietal characteristics; that possess a normal flavor and odor; that possess a fairly good color; that are fairly uniform in size; that are fairly free from defects; that possess a fairly good character; and that score not less than 70 points when scored in accordance with the scoring system outlined in this subpart.

(c) "Substandard" is the quality of canned apples that fail to meet the requirements of "U. S. Grade C" or "U. S. Standard."

¹ The requirement of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

FILL OF CONTAINER AND DRAINED WEIGHTS

§ 52.2164 *Recommended fill of container.* The recommended fill of container is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purposes of these grades. It is recommended that each container be filled with apples as full as practicable without impairment of quality and that the product and packing medium occupy not less than 90 percent of the volume of the container.

§ 52.2165 *Recommended minimum drained weights.* (a) Minimum drained weight recommendations for canned apples shown in Table I of this paragraph are not incorporated in the grades of the finished product since drained weight, as such, is not a factor of quality for the purposes of these grades. The drained weight of canned apples is determined by emptying the contents of the container upon a United States Standard No. 8 circular sieve of proper diameter containing 8 meshes to the inch (0.0937-inch, $\pm 3\%$ square openings) so as to distribute the product evenly, inclining the sieve slightly to facilitate drainage, and allowing to drain for two minutes. The drained weight is the weight of the sieve and the apples less the weight of the dry sieve. A sieve of 8 inches in diameter is used for No. 3 size cans (404 x 414) and smaller, and a sieve 12 inches in diameter is used for containers larger than the No. 3 size can.

TABLE I—RECOMMENDED MINIMUM DRAINED WEIGHTS

Can size	Can dimensions (in inches)		Drained weight (in ounces)
	Diameter	Weight	
No. 303.....	3 $\frac{3}{16}$	4 $\frac{6}{16}$	14
No. 2.....	3 $\frac{7}{16}$	4 $\frac{9}{16}$	18
No. 2 $\frac{1}{2}$	4 $\frac{1}{16}$	4 $1\frac{1}{16}$	26
No. 10.....	6 $\frac{3}{16}$	7	96

(b) Compliance with the recommended drained weights for canned apples is determined by averaging the

drained weights from all the containers which are representative of a specific lot and such lot is considered as meeting the recommendation if:

(1) The average drained weight from all the containers meets the recommended drained weight;

(2) One half—or more of the containers meet the recommended drained weight; and

(3) The drained weights from the containers which do not meet the recommended drained weights are within the range of variability for good commercial practice.

FACTORS OF QUALITY

§ 52.2166 *Ascertaining the grade.* (a) The grade of canned apples is ascertained by considering the requirements with respect to varietal characteristics, flavor, and odor, which are not scored and the factors of color, uniformity of size, absence of defects, and character which are scored.

(b) The relative importance of each factor which is scored is expressed numerically on the scale of 100. The maximum number of points that may be given such factors are:

Factors:	Points
Color	20
Uniformity of size.....	20
Absence of defects.....	20
Character	40

Total score..... 100

(c) "Normal flavor and odor" means that the product is free from objectionable flavors and objectionable odors of any kind.

§ 52.2167 *Ascertaining the rating for the factors which are scored.* The essential variations within each factor which is scored are so described that the value may be ascertained for such factors and expressed numerically. The numerical range within each factor which is scored is inclusive (for example "17 to 20 points" means 17, 18, 19, or 20 points).

§ 52.2168 *Color*—(a) (A) *classification*. Canned apples that possess a good color may be given a score of 17 to 20 points. “Good color” means that the slices, internally and externally, possess a reasonably uniform bright color, characteristic of apples of similar varieties.

(b) (C) *classification*. If the canned apples possess a fairly good color, a score of 14 to 16 points may be given. Canned apples that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). “Fairly good color” means that the slices possess a color characteristic of apples of similar varieties; may vary noticeably in color; may possess a slight, but not markedly, brown, pink, or grey cast; and are practically free from internal discoloration.

(c) (SStd) *classification*. Canned apples that fail to meet the requirements of paragraph (b) of this section may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.2169 *Uniformity of size*—(a) *General*. The factor of uniformity of size refers to the degree of wholeness and to the uniformity of thickness of the slices.

(1) “Practically whole slice” means that the individual slice may be cut or broken but at least three-fourths of the apparent original slice remains.

(b) (A) *classification*. Canned apples that are practically uniform in size may be given a score of 17 to 20 points. “Practically uniform in size” means that at least 90 percent of the drained weight of the product consists of whole or practically whole slices of $1\frac{1}{4}$ inches in length or longer; and that of the 90 percent of the drained weight of the product consisting of units of the most uniform thickness, the thickness of the slices does not vary more than $\frac{1}{4}$ inch.

(c) (C) *classification*. Canned apples that are fairly uniform in size may be given a score of 14 to 16 points. “Fairly uniform in size” means that at least 75

percent of the drained weight of the product consists of whole or practically whole slices of $1\frac{1}{4}$ inches in length or longer.

(d) (SStd) *classification*. Canned apples that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.2170 *Absence of defects*—(a) *General*. The factor of absence of defects refers to the degree of freedom from harmless extraneous matter, from damaged or seriously damaged slices, and from carpel tissue.

(1) “Harmless extraneous matter” means any vegetable substance (including, but not being limited to, a leaf, stem, or portions thereof, cores and portions of cores, and seeds) that is harmless.

(2) “Damaged unit” means any unit possessing green peel that exceeds in the aggregate an area of a circle $\frac{1}{2}$ inch in diameter, or red peel that exceeds in the aggregate an area of a circle $\frac{1}{4}$ inch in diameter, light brown bruise that exceeds the area of a circle $\frac{1}{2}$ inch in diameter or which is more than $\frac{1}{4}$ inch deep, and any unit in which the appearance or eating quality is materially affected by blossom end material, dark brown bruise or other internal or external discoloration, pathological injury, insect injury, or by any other means.

(3) “Seriously damaged unit” means any unit damaged to such an extent that the appearance or eating quality is seriously affected.

(4) “Practically free from carpel tissue” means that for each 16 ounces of the product, the carpel tissue present does not exceed in the aggregate an area equal to $\frac{3}{4}$ square inch.

(5) “Fairly free from carpel tissue” means that for each 16 ounces of the product the carpel tissue present does not exceed an area equal to $1\frac{1}{2}$ square inches.

(b) (A) *classification*. Canned apples that are practically free from defects

may be given a score of 17 to 20 points. "Practically free from defects" means that extraneous matter may be present that does not materially affect the appearance or eating quality of the product; that the product is practically free from carpel tissue; and that not more than a total of 5 percent, by weight, of the units may be damaged of which not more than 1 percent, by weight, of all the units may be seriously damaged: *Provided*, That extraneous matter, damaged and seriously damaged units, singly or in combination, do not materially affect the appearance or eating quality of the product.

(c) (C) *classification*. Canned apples that are fairly free from defects may be given a score of 14 to 16 points. Canned apples that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly free from defects" means that extraneous matter may be present that does not seriously affect the appearance or eating quality of the product; that the product is fairly free from carpel tissue; and that not more than a total of 15 percent, by weight, of the units may be damaged of which not more than 3 percent, by weight, of all the units may be seriously damaged: *Provided*, That extraneous matter, damaged and seriously damaged units, singly or in combination, do not seriously affect the appearance or eating quality of the product.

(d) (SStd) *classification*. Canned apples that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.2171 *Character*—(a) *General*. The factor of character refers to the texture of the slices and to the tendency to retain their conformation without material softening or disintegration.

(1) "Mushy apples" means slices or portions thereof that are a pulpy mass

and of a consistency approximating applesauce.

(b) (A) *classification*. Canned apples that possess a good character may be given a score of 34 to 40 points. "Good character" means that the slices possess a reasonably tender texture, and that not more than 5 percent of the drained weight of the product consists of mushy apples.

(c) (C) *classification*. Canned apples that possess a fairly good character may be given a score of 28 to 33 points. Canned apples that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly good character" means that the slices may be variable in texture, with not more than 15 percent of the drained weight of the product consisting of slices that are markedly hard, markedly soft, or mushy.

(d) (SStd) *classification*. Canned apples that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 27 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

LOT INSPECTION AND CERTIFICATION

§ 52.2172 *Ascertaining the grade of a lot*. The grade of a lot of canned apples, covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 through 52.87; 22 F. R. 3535).

SCORE SHEET

§ 52.2173 *Score sheet for canned apples.*

Size and kind of container.....		
Container mark or identification.....		
Label.....		
Net weight (ounces).....		
Vacuum readings (in inches).....		
Drained weight (ounces).....		
Factors	Score points	
I. Color.....	20	{ (A) 17-20 { (C) ¹ 14-16 { (SStd) ¹ 10-13
II. Uniformity of size.....	20	{ (A) 17-20 { (C) 14-16 { (SStd) ¹ 10-13
III. Absence of defects.....	20	{ (A) 17-20 { (C) ¹ 14-16 { (SStd) ¹ 10-13
IV. Character of fruit.....	40	{ (A) 34-40 { (C) ¹ 28-33 { (SStd) ¹ 10-27
Total score.....	100	
Normal flavor and odor.....		
Grade.....		

¹ Indicates limiting rule.

*Recodified in the Federal Register of December 9, 1953 (18 F. R. 8073) --
 Section 52.2172 amended May 22, 1957 (22 F. R. 3535)*

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